Ms. Kathleen Sisneros, Chief  
Hazardous and Radioactive Waste Bureau  
New Mexico Environmental Improvement Division  
Harold Runnels Building  
1190 St. Francis Drive  
Santa Fe, New Mexico 87503

Dear Ms. Sisneros:

Enclosed for your information are two copies of the ER Program Technical Quarterly Report.

Should you have any questions, please call me.

Sincerely,

Paul B. Schumann, Chief  
Environment, Safety and Health Branch

Enclosures:  
ER Program Technical Quarterly Report (2 copies)
QUARTERLY REPORT
APRIL - JUNE
FISCAL YEAR 1990
INTRODUCTION

The Laboratory has modified the current-year work plan (CYWP) to reflect the current budget of $10609 K.

The quarterly technical status of individual tasks listed in the CYWP is discussed below. Monthly management reports are prepared by the ER Program Office and not repeated as part of this quarterly technical progress report for the ER Program, including Task AL-LA-61, Assessment Management and Remediation Management.
RCRA/CERCLA ASSESSMENT: Task Element Status

AL-LA-1 (Canyons) (Project Leader - Sandy Wagner)

There was some field activity conducted on this task during the month of July, as preparations were made to begin well installations to meet permit requirements.

AL-LA-2 (TA-33, Material Disposal Areas) (Project Leader - Paul Aamodt)

Group CLS-1 was selected as the lead technical organization to prepare the Work Plan for TA-33. A scope of work including milestones for the next year was prepared based on requested funding levels. A core technical team composed of staff from various Laboratory divisions was assembled and team members were given initial assignments. A major effort was started to compile archival information on historical activities related to material disposal areas, buildings, subsurface structures, and outfalls. Site visits were made by team members for familiarization of the area and verification of previous surveys. The solid waste management units (SWMUs) were evaluated using various schemes in order to develop reasonable aggregations based on common properties. This effort resulted in the 61 identified SWMUs for the area being consolidated into three aggregations having generally similar chemical properties and geographical proximity.

AL-LA-3 (TA-33, Buildings and Outfalls) (Project Leader - Paul Aamodt)

Work Plan - AL-LA-3 is currently being conducted as a package task with AL-LA-3 and AL-LA-4 (below), thus the activity description for AL-LA-2 covers all three task elements.

AL-LA-4 (TA-33, Subsurface Structures) (Project Leader - Paul Aamodt)

Work Plan - Same AL-LA-2 above.

AL-LA-8 (TA-21 MDAs A, B, U, V, and T) (Project Leader - Micheline Devaurs)

The internal milestone for completion of Section 3 of the TA-21 Work Plan (SWMU description and identification of data needs) for all 68 TA-21 SWMUs was May 28, 1990. This deliverable is still incomplete for all TA-21 SWMUs.

Work Plan activities this month focused on: (1) developing exposure scenarios for TA-21 and (2) initiating a contract for input and review of the Work Plan to make sure the sampling plan is proposing to collect appropriate data for the unsaturated zone. A TA-21 site tour for EPA personnel was also conducted.
Much progress was made on proposing an approach for subsurface characterization of the material disposal areas (MDA's) at TA-21. For those MDA's which received solid waste (A,B), a phased approach evaluating first whether waste has migrated from the site and then secondly, if necessary, defining any contaminant plumes that are present is proposed. For MDA's which received liquid waste (T,U,V) the approach will be to define both the plume migration and extent of migration in the first sampling phase.

At this time it appears the TA-21 Work Plan will cost more than originally projected, due to the magnitude and complexity of the document being generated. The budget for this Work Plan may not be adequate for this fiscal year. This is impacting internal TA-21 milestones, and will impact FY 91 TA-21 Work Plan costs, but at this time LANL will still be able to meet the HSWA Module conditions of the Laboratory's RCRA Operating Permit.

**Material Disposal Area B Pilot Study** - Data analysis of the Area B pilot study data is on-going. The pilot scale Work Plan is anticipated to be complete September 1, 1990 for incorporation into the TA-21 Work Plan.

This task is on schedule, and cost underrun is not anticipated this fiscal year.

**AL-LA-9 (TA-21 Subsurface Structures)** (Project Leader - Micheline Devaurs)

The internal milestone for completion of Section 3 of the TA-21 Work Plan (SWMU description and identification of data needs) for all 68 TA-21 SWMUs was May 28, 1990. This deliverable is still incomplete for all TA-21 SWMUs.

Work Plan activities this month focused on: (1) developing exposure scenarios for TA-21 and (2) initiating a contract for input and review of the Work Plan to make sure the sampling plan is proposing to collect appropriate data for the unsaturated zone. A TA-21 site tour for EPA personnel was also conducted.

A contractor is continuing work on Work Plan sections for seepage pits and dry wells. All Section 3 writeups for this task are projected to be complete by August 1, 1990.

At this time it appears the TA-21 Work Plan will cost more than originally projected, due to the magnitude and complexity of the document being generated. The budget for this Work Plan may not be adequate for this fiscal year. This is impacting internal TA-21 milestones, and will impact FY 91 TA-21 Work Plan costs, but at this time LANL will still be able to meet the HSWA Module conditions of the Laboratory's RCRA Operating Permit.
AL-LA-10 (TA-21 Surface Contamination) (Project Leader - Micheline Devaurs)

The internal milestone for completion of Section 3 of the TA-21 Work Plan (SWMU description and identification of data needs) for all 68 TA-21 SWMUs was May 28, 1990. This deliverable is still incomplete for all TA-21 SWMUs.

Work Plan activities this month focused on: (1) developing exposure scenarios for TA-21 and (2) initiating a contract for input and review of the Work Plan to make sure the sampling plan is proposing to collect appropriate data for the unsaturated zone. A TA-21 site tour for EPA personnel was also conducted.

Personnel were assigned for completion of Section 3 for TA-21 surface SWMUs. A contractor began working on Section 3 for all TA-21 outfalls.

At this time it appears the TA-21 Work Plan will cost more than originally projected, due to the magnitude and complexity of the document being generated. The budget for this Work Plan may not be adequate for this fiscal year. This is impacting internal TA-21 milestones, and will impact FY91 TA-21 Work Plan costs, but at this time LANL will still be able to meet the HSWA Module conditions of the Laboratory's RCRA Operating Permit.

AL-LA-11 (TA-1, Townsite) (Project Leader - Sandy Wagner)

The task was rebaselined in May, but work is already behind the new schedule and budget. Contractor assistance is being sought in an attempt to complete the work scheduled for the rest of this fiscal year. It is expected that the FY90 effort for this task will be completed within the rebaselined budget.

AL-LA-15 (TA-10, Bayo Canyon) (Project Leader - Sandy Wagner)

The draft of Section 3 of the RFI Work Plan for the TA-10 firing Sites is nearing completion. The rest of the SWMUs are being integrated into a section that addresses the site as a whole. It is expected that the overall effort will be within budget. Work to date is ahead of schedule.

AL-LA-46 (TA-54, MDAs L, G, H, and J) (Project Leader - John Krueger)

Quarterly sampling of the pore gas monitoring wells occurred in June. Preparations continued for the last round of well installations intended to bound the plume. Actual installation will not occur until September due to limited drill rig availability. Also in June, weekly sampling of the monitoring well adjacent to Area G was conducted to confirm or deny the presence of a possible carbon tetrachloride plume.
In response to a request from HSE-7, data generated in the pore gas study will be used by EES-5 to model the feasibility of an expedited cleanup of the plume. This activity will be funded and reported under interim actions (assessment). A scoping meeting with HSE-8 and EES-5 will be held in July for this activity.

AL-LA-51 (TA-49, Subsurface Contamination AL-1144) (Project Leader - Sandy Wagner)

Activity on this task will start in July.

AL-LA-52 (TA-49, Surface Structures AL-1145) (Project Leader - Sandy Wagner)

Activity on this task will start in July.

AL-LA-57 (Interim Remedial Measures)

The review of engineering projects for overlap with identified solid waste management units (SWMUs) or areas of contamination (AOCs) associated with SWMUs to determine the necessity of an interim site characterization or cleanup is an ever-increasing task for the ER Program Office. In June, it was recognized that an Interim Actions Project Leader was needed to define and coordinate a system for the review of construction projects and the conduct of interim actions. Much of June was spent getting the Project Leader up to speed. However, prior to June the interim actions listed below were active.

A major issue settled this quarter was the definition of "placement" as it is used in the Land Disposal Restrictions (LDR). For Superfund activities, LDR Guide #5 states that if soil is not removed from a hazardous waste site or its AOC then placement has not occurred. A letter was sent to EPA requesting that they extend this interpretation to activities conducted on SWMUs under RCRA. EPA's reply was the soil could be moved within the boundary of a SWMU, but in its AOC, such movement would be considered placement. Although their guidance was inconsistent with proposed Subpart S (corrective action) regulations, at least it provided a basis for ER Program guidance to Engineering construction project managers.

Material Disposal Area C - In April, a geophysical survey of pit #6 was conducted to define its boundaries. The intent was to provide safe locations for drilling within Area C to determine the extent of any vadose zone contamination. A hazardous waste pretreatment facility is planned in the immediate area. The pit was shown to be slightly skewed from available drawings. In May, representatives from HSE-7 agreed to investigate alternative locations for the building.
**Sanitary Wastewater Systems Consolidation** - Near surface soil sampling was conducted in April in the proposed location of the wastewater treatment facility (TA-46). An analysis of the data showed that the samples were clean, but a consensus with HSE-8 was reached that further sampling of surface drainages in the area was necessary prior to writing the site off and proceeding with construction. Sampling and analysis will be completed next quarter.

**Live Firing Range Expansion** - An administration building is proposed in the present location of the firing range. The ER Program Office will conduct surface soil sampling to determine the presence of lead contamination next quarter.

**Omega West Drainline Consolidation** - This project will consolidate a number of drains that now discharge directly into Los Alamos Canyon. The lines come from sinks, water fountains, and floor drains that were not intended to carry contaminated water, but might, under certain failure conditions, be in violation of the Lab's NPDES Permit. The main concern is the probable presence of residual contamination (hexavalent chromium) throughout TA-2 from cooling tower blowdown. Using the guidance provided by EPA, a memorandum will be sent next quarter to Engineering instructing them to consider the entire fenced area of TA-2 as a contaminated SWMU. Excavated soil must remain in the fenced area to comply with Land Disposal Restrictions, and Engineering will have to consult with HSE-5 concerning health and safety requirements for digging into hazardous waste.

**Upper Mortandad Canyon** - Holding times were exceeded for several of the samples taken in the site of the proposed access road to the Material Science Laboratory. Therefore, in June, a second suite of samples was taken. Analytical results will be available next quarter.

**AL-LA-60 (Installation Work Plan)**

This quarter, assignments were made by IWP section (as defined in the outline) and a schedule was developed based on the expected effective date of the HSWA permit. Preliminary draft sections will be due on May 11 unless the effective date changes. To date, little has been accomplished on the body of the document; the four ancillary plans are discussed below.

**Community Relations Program Plan** - (Project Leader - Martin Janowski)

The ER Community Relations Program performed the following major activities in the third quarter of FY 1990:
a) Review of past community involvement and community relations activities performed by the Laboratory associated and/or affecting the Environmental Restoration Program.

b) Scheduled and performed community interviews per EPA guidance in the communities of Los Alamos, Santa Fe, Espanola, Taos, and Jemez Springs for use in development of a Community Relations Plan.

c) Selected building space in downtown Los Alamos for the establishment of a Community Relations Reading Room and Information Repository and began development for its public use.

Developed a standard presentation on the ER Program to be presented to a variety of publics and delivered same to Laboratory Community Council in Santa Fe, May 2, a group consisting of community leaders from throughout Northern New Mexico.

**Technical Data Management Program Plan** - (Project Leader - Mike Ray)

A variety of UNIX-based workstations and ARC/INFO software for geographical analysis and display were ordered and some were received. The ORACLE software package was selected as the relational database to support the information management functions. Hardware and software for a centralized data repository, and for video data capture and storage were also investigated.

Contacts were initiated with ADP and C Divisions to identify the extent, locations of data links, and associated requirements for the ER information system. Our goal is to utilize existing lines and ports where possible and identify any laboratory areas where coverage for ER work may be needed.

Space was obtained for the Interim Records Facility (IRF) by the ER Program office at the Sunny Days Plaza, 2101 Trinity Drive in Los Alamos. Paperwork for moving certain offices, phones, and mail stop assignment was completed. Contact was made with C-Division to get INFORM access at the IRF started.

Comments by Project Leaders on the initial draft of the Technical Data Management Plan were received. Revisions will be reflected in the July 27th internal working draft.

**Quality Assurance Program Plan** - (Project Leader - Larry Maassen)

The ER Quality Assurance Program Plan has been drafted with the help of ICF Kaiser Engineers. It was distributed for internal review in late July. An installation generic Quality Assurance Project Plan was initiated.
Additional QAS support personnel were added. One person was added to help establish and maintain an interim records management facility, and one person was hired into the ER Program Office as a QA specialist to aid in the development and implementation of the QA program.

Quality assurance training was presented to ER Program personnel. This training incorporated the requirements of both the Environmental Protection Agency and the Department of Energy.

**Health and Safety Program Plan** - (Project Leader - Edward Norris)

Preparation of the Health and Safety Program Plan commenced this quarter. This program plan will be incorporated as an annex in the Installation Work Plan. A major part of the effort in this work was determining the regulations, orders, and policies that must be followed. Copies of some pertinent codes, orders, and safety manuals were obtained, and others are on order. The first draft of the Health and Safety Program Plan is expected to be completed on schedule by July 27 and distributed shortly afterward for its initial review.

Interim Health and Safety Requirements for Environmental Restoration work at Los Alamos were written and issued early in June. These requirements cover the need for an approved site safety plan before work starts, access control at sites while work is in progress, safety criteria for visitors, the duties of a site safety officer, training requirements for workers, medical surveillance, respiratory protection, and appropriate documentation. These interim requirements will be superseded by the Health and Safety Annex of the Installation Work Plan, when that document is approved.

**Project Schedule** - (Project Leader - James Aldrich) - A work breakdown structure (WBS) of the ER program was developed in order to have the elements required for a project management schedule. Work was started on the 5 Year Plan schedule. About 50% of it was completed.

**RCRA REMEDIATION - Task Element Status**

**AL-LA-57 (Interim Remedial Measures)**

No activity this quarter.

**AL-LA-RC-1 (TA-16, Burning Ground Surface Impoundment)** - (Project Leader - John Krueger)

As reported last quarter, one of 12 verification samples taken in the bottom of the surface impoundment showed 29 ppb of TCE and the duplicate showed 16 ppb TCE. In May, telephone conversations with the State were held to discuss whether the residual contamination at the surface
impoundment warranted additional excavation and sampling. The State performed a calculation indicating that the incremental risk was acceptable and no further work was necessary. Their decision has been documented in a letter.

In June, all remaining field activities were completed. Santa Fe Engineering will certify the closure and HSE-8 will begin compiling the required closure report in July. The final closure report and certification are due September 20, 1990.

**AL-LA-RC-2 (TA-54, Area L Waste Oil Storage Tanks) - (Project Leader - John Krueger)**

In April, World Services conducted the bulk of the decontamination of all six of the tanks. Rinseate was collected in 55 gallon drums and sampled for hazardous waste or constituents. Analytical results showed that two of the six tanks were clean after the first rinse. These were cut up for disposal in May. The remaining four tanks were steam cleaned a second time in June. Analysis of the rinseate for these tanks should be available early next quarter.

**AL-LA-RC-3 (TA-35, Waste Oil Storage Pits) - (Project Leader - John Krueger)**

Field work for this closure was completed last quarter. However, a review of the data package and summary submitted by HSE-8 for has revealed some weaknesses. In the final verification sample batches for both impoundments, holding times for semi-volatile organic compounds were exceeded, invalidating the results. Those samples where holding times were adhered to often had excessively high detection limits for semi-volatiles, due to the masking effect of the aliphatic hydrocarbons present in the samples.

Therefore, a decision was made in June (jointly with HSE-8) that additional verification sampling is required to complete the closure. A sampling plan was requested from HSE-8, and drilling will probably occur in September. Meanwhile, IT Corporation will be tasked to augment their risk assessment (to the extent possible) and Benchmark Corporation will be tasked (through HSE-7) to finalize the closure plan (to the extent possible) and certify the closure.

**AL-LA-RC-4 (TA-16, Area P Landfill) - (Project Leader - John Krueger)**

It remains unclear if the closure plan (which has already been submitted to NMEID) will be acceptable to the State, or if the design option it proposes is even desirable. Internal meetings and meetings with the State will help resolve the situation.
AL-LA-RC-5 (TA-40, Scrap Detonation Site) (Project Leader - John Krueger)

In May, a meeting was held at TA-40 with personnel from M Division to discuss the pending closure of the Scrap Detonation Site. A presentation on the ER Program was provided, and discussions about the closure were followed by a site visit. To everyone's surprise, the amphitheater created by past operations had been filled in with construction debris. The sampling strategy for the closure plan will have to be modified accordingly. This newly discovered condition will not affect costs this year, but ultimately, closure costs will be higher than expected. A memo was requested from M Division concerning the nature of the material dumped at the amphitheater, but it has not yet been received. To get the closure plan going, the subcontractor was directed to write the plan assuming that the material is merely solid waste and can be spread apart to make way for the necessary sampling of the original firing site. A first draft of the revised plan is expected in July.

AL-LA-RC-6 (TA-54, Areas L and H) (Project Leader - John Krueger)

The Closure Management Plan, published by the ER Program Office in May, proposed a unification of the approach to cleanup at Laboratory areas (like Areas L and H) that are subject to both closure and corrective action regulations. Clearly, the most cost effective and technically appropriate method for cleanup is to simply take the areas through the corrective action process, making sure that the final remedy also complies with the closure standards. If the State approves of this approach, the existing closure plan for Areas L and H would be modified accordingly. The management plan transmittal letter to DOE-LAAO requested a meeting with the State on this subject, but to date, LAAO has not been able to arrange such a meeting. Therefore, no significant activity occurred this quarter.

Development of the mobile GC/MS is on-going. This instrument is intended for use during both closure and corrective actions, and will provide us with a means to reduce the overall cost of site characterizations and corrective actions while obtaining timely sample results that are likely to be more representative of actual site conditions. The mobile GC/MS should be ready for field demonstration by the end of September.

AL-LA-RC-7 (TA-54, Area G) (Project Leader - John Krueger)

Revision of the Area G closure plan has been postponed until next fiscal year based on a decision made in the first quarter. Concurrence with this delay will be sought from the State of New Mexico in a meeting to be held during the fourth quarter. Similar to Areas L and H, approval will be sought from the State to integrate closure and corrective actions at Area G. Under the assumption that approval for the delay will be granted, Area G has been omitted from the Current Year Work Plan.
AL-LA-RC-9 (RCRA Mixed Waste Disposal Facility) (Project Leader - Paul Aamodt)

There were a number of significant activities underway during this quarter. The "Preliminary Site Selection Report" was completed, as per the original (FY89) scope of work, in May 1990. However, the siting issues associated with TA-49 were considered to be serious enough to force a re-evaluation of the candidate sites. This has been a major task during the quarter, and a final recommendation is not expected until early next quarter.

The preliminary "Alternate Design Study," which was begun last fiscal year, was completed this quarter. A first draft QA Plan was also prepared and submitted for review and comment. The first draft Project Management Plan will be completed in September. Work was started to develop information for the Performance Assessment related to waste volume and waste constituents. This activity will continue next quarter. Finally, detailed logic and projected activity durations have been prepared for the entire MWDF Project. This is a "living" network that will be updated regularly and used to track progress and plan future tasks.